ICT Choices: Little Evidence of Strategic Planning

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Abstract

"The significance of the SME sector in NZ is increasing, with further opportunities presented by globalisation and technological development" (Ministry of Economic Development, 2005). Small and Medium Enterprises (SMEs) are important to the New Zealand (NZ) economy as statistically they make up most of the economy in almost all areas of business. Trade SMEs, such as plumbers, electricians and builders, make up a significant subgroup but there is little research about them in any aspect. This paper focuses on how selected trade SMEs in the wider Auckland region, choose their Information and Communication Technology (ICT) requirements.

This research combines both quantitative and qualitative paradigms, in a mixed method approach.

The results indicate little evidence of ICT strategic planning for the choice and use of ICT by the selected trade SME's .

Keywords: New Zealand SME trades sector, ICT use, ICT choice and ICT planning.

1 Introduction

SMEs make up the majority (96.3%) of business in NZ (Ministry of Economic Development, 2005). A Small Enterprise (SE) is regarded as having zero to five full-time employees (FTE), a Medium Enterprise (ME) is classified as having six to 19 FTE's, and a Large Enterprise (LE) is classified as having 19 or more FTE's (Ministry of Economic Development, 2005). There are considerably more SEs (86.8%) than MEs (9.5%), and nearly two-thirds of businesses (64.7%) have no employees (Ministry of Economic Development, 2005). Globally NZ SMEs are classified as micro enterprises (Ministry of Economic Development, 2005).

It is likely that NZ SME owners make all the critical decisions without the aid of internal management expertise (Anew NZ, 2003), that they are inclined to concentrate on operational and tactical demands (Ministry of Economic Development, 2005) and that strategic management is not common (Ministry of Economic Development, 2005; Norman & Scadden, 2004, p.142). It

is likely that they do not have formal business experience, and that their success of their enterprise will be bound by their skills and experience (Ministry of Economic Development, 2005). Anew NZ (2003) wrote "SMEs are disadvantaged due to their size".

Nevertheless, ICT has been widely adopted by NZ businesses. Statistics as at June 2001 revealed that 88% of NZ businesses regularly used a computer, 80% of businesses use IT to do their financials, and 60% use IT for business data processing (Statistics NZ, 2002).

Some NZ SMEs have adopted e-technologies extensively although they have neglected the importance of strategic and effective use of their technologies (Watthayalage, 2002, p. iv). A lack of ICT uptake and ineffective use of ICT among NZ tourism SMEs was found by Nodder, Mason, Ateljevic, and Milne (2003, p. 142). Once ICT is adopted, Locke (2002, p. 100) reports that the performance of the business heavily relies on the education, experience and know-how of the owner.

SMEs globally have a lack of alignment between their business strategy and their IT strategy (Gramignoli, Ravarini, & Tagliavini, 1999, p. 200). It is also noted in the literature that just over half (51%) of selected Great Britain SME IT professionals admitted to having no formal IT strategy (Benson, 2003, p. 34).

Although ICT is widely adopted, SMEs do not always make good ICT decisions. This paper focuses on the choosing of ICT by selected trade SMEs in the wider Auckland region (Ngatuere, 2006).

1.1 Rationale

The researcher for the past six years has consulted to the trade SME sector, specifically supporting a computerised financial application, mostly in the Auckland region. The researcher has found that usually the trade SME owners make the ICT decisions. Most have minimal ICT knowledge, their ICT usage is minimal, most do not invest in ICT training, and most tend to manage ICT in an ad-hoc manner. The researcher believes that if ICT decisions are managed in a planned manner then the usage of ICT will be more effective.

There is an absence of research about the choice of ICT by trade SMEs in NZ. The combination of personal experience and interest led the researcher to attempt to fill this gap.

In order to limit the scope of the research the following trades were chosen to be the research subject:

- Automotive

- Electrical
- Panel and Paint
- Plumbing
- Plumbing and Drainage

1.1.1 Research Questions

The purpose of this research was to gain an understanding of:

- How do trade SMEs in the wider Auckland region choose their ICT requirements?

In order to answer this question, the following questions must be answered:

- Do they use formal planning for ICT?
- How do they make decisions about ICT?

2 Methodology

A mixed method approach, combining both paradigms, quantitative and qualitative was used.

2.1 Quantitative Method

In order to understand the different characteristics of the trade enterprises, a quantitative method was embraced using a survey questionnaire with both open and closed questions that was developed for a large number of respondents.

A draft questionnaire was piloted with three organisations: one SE and two MEs. As a result of the pilots, the questionnaire was refined.

From the Auckland Yellow Pages a further 97 organisations were selected at random from the automotive, building, electrician and plumbing sections. The researcher knew some of these selected organisations through consulting although there were many more unknown organisations. The questionnaire was either mailed out or hand delivered. Overall, including the three pilot questionnaires, a total of 32 completed questionnaires were received.

Initially, the survey data were categorised according to their relevant enterprise size. One company was identified as a LE. This information was stored and was not used.

Subsequently, the SMEs were categorised according to their core business activities. Seven companies were selected for an interview:

- One SE automotive
- One SE builder
- One SE panel and paint
- One SE plumbing and drainage
- One ME electrician
- One ME plumber
- One ME plumbing and drainage

The one SE builder declined an interview as he worked alone, was 93 years old, and had no technology other than a telephone landline in his organisation.

2.2 Qualitative Method

The qualitative method is relevant in order to understand the choice of ICT by the selected trade SMEs. This process used a semi-structured interview questionnaire that was developed for a smaller number (six) of individual respondents.

The interview design was conducted with one person, that person being the one that knew the most about the planning of ICT and the decision-making about ICT within the organisation.

Of the six enterprises initially interviewed, one SE and one ME were selected for a further telephone interview in which they were asked to indicate how closely they followed two decision-making models.

3 Analysed Results

The results obtained in this research have been analysed and categorised into three areas: respondent characteristics, planning for ICT and decision-making about ICT.

3.1 Respondent Characteristics

The respondent characteristics included the position of the respondent, the type of core business, the number of full time employees, the number of part time employees and the number of part time or full time apprentices.

The surveyed data from the 31 respondents demonstrated most (74%) of the trade SME respondents were owners. Just over half (52%) of the respondent's were from the plumbing industry. Only a few enterprises had more than five full time employees (26%) or more than two part time employees (3%) or more than two apprentices (8%).

3.2 Planning for ICT

The planning for ICT incorporated whether the organisation had an overall business plan, an ICT plan, if they knew how to write an ICT plan, how far would they plan ICT into the future, did they budget each year for ICT and did they have an ICT contingency plan.

The initial interviewed data from the six enterprises (three SEs and three MEs) demonstrated all six had contingency plans to enable 24/7 usage of ICT. Three enterprises (one SE and two MEs) knew how to write an ICT plan and are the only ones that would make long term plans. The only two enterprises (two MEs) that had business plans also had separate ICT plans, however all these plans were out-of-date. Only one enterprise (a ME) had an ICT budget.

3.3 Decision-Making about ICT

The decision-making about ICT included the influences that impacted on how ICT decisions are made and who made the ICT decisions.

From the initial interviewed data of the six enterprises results showed the owners made the decisions in the SEs and one of the MEs. One of the MEs, the directors made the ICT decisions and in the other ME, the manager made the ICT decisions.

All the MEs seek IT consultant advice with ICT decisions, but none of the SEs do. The government influences two MEs and one SE. Two MEs and one SE seek friends and family help with ICT decisions. Only two enterprises (both SEs) are influenced by their competitors. Their suppliers and customers influence only one enterprise (a SE). The users of ICT influence only one enterprise (a ME).

From the follow-up interviews with one SE and one ME the results showed that the SE seeks advice from family and friends but the ME does not. The ME often seeks advice from IT consultants and involves the directors in decision-making. The SE makes little use of IT consultants and often answered "not applicable", "just do it" or "don't know".

On comparing the different interview stages and the decision-making models some differences may be noted:

The SE mentioned using consultants when asked about the decision-making models in the follow-up interview but did not do so during the initial interview. The ME mentioned getting advice from family and friends during the initial interview but did not do so when asked about the decision-making models in the follow-up interview.

4   Discussion

The research findings are discussed, related to the literature and then to the research questions.

4.1   Respondent Characteristics

Considerably more SEs (71%) than MEs (29%) responded, although not in the 7-1 ratio that Ministry of Economic Development (2005) identified across all sectors. Nearly all respondents had full time employees while around half had part time employees and a similar proportion employed apprentices, whereas Ministry of Economic Development (2005) found that two-thirds of SMEs in NZ had no employees at all.

For all enterprises, ICT is not used to carry out their primary work (i.e. unblock a toilet, install spouting, dig a drain, etc).

4.2   Planning for ICT

Unlike the larger enterprises that have well-established formal business plans (Francis Consulting, 2003) it is common to find that SMEs do not (Benson, 2003, p. 34; Norman & Scadden, 2004, p. 142; Watthayalage, 2002, p. 79). Only two of the six interviewees (both MEs) had business plans though these were out-of-date. The same two MEs had separate ICT plans yet these were also out-of-date and one of them was the only respondent that had a budget each year for ICT. These two MEs and one SE said that they knew how to write an ICT plan and that they would plan for a long period of time, yet the SE did not have a plan at all. The other three interviewees would only plan for a short period of time.

It would seem that these interviewees make very little strategic use of ICT in their enterprises and that day-to-day management pressures drive them rather than strategic considerations. This is consistent with other research about SMEs globally (McGovern and Hicks, 2004, p. 243) and locally (Ministry of Economic Development, 2005; Watthayalage, 2002, p. 79). The literature indicates that businesses should focus on aligning their business plans and ICT plans (Frenzel, 1999, p. 85; Gramignoli, Ravarini, & Tagliavini, 1999, p. 200; Knoll & Jarvenpaa, 1994; Luftman, Bullen, Liao, Nash, & Neumann, 2004, p. 25; Tan & Gallupe, 2003, p. 50) and that planning of ICT is a key factor for competitive success (Butler & Murphy, 1999, p. 364). It would seem that this is not a concern for the interviewees.

4.3   Decision-Making about ICT

Four interviewees (three SEs and one ME) were owner/managers, one interviewee (ME) was a manager and the other interviewee (ME) belongs to a group of directors. According to Ministry of Economic Development (2005), few NZ SMEs have salaried managers, boards or formal governance arrangements. In most SMEs owner/managers are responsible for making the ICT decisions (Anew NZ, 2003; McGovern & Hicks, 2004, p. 243; Nodder, 2004, pp. 89-92; The ICEHOUSE, n.d.; Winston & Dologite, 2003). Consequently the success of SMEs relies heavily on the education, experience and know-how of the owner/managers (see Locke, 2002, p. 100; Manueli, 2005, p.87-89; MED, 2005; Nodder, 2004, p. 89-92).

Boekhoudt & Stappen (2004, p. 204) argue that seeking advice from consultants is very important for SMEs but only half of the interviewees (the three MEs) do so. It would seem that the other interviewees (the three SEs) prefer self-help over seeking advice (see MED, 2005).

Other external influences included government (three interviewees), friends and family (three interviewees), competitors (two interviewees), suppliers (one interviewee), and customers (one interviewee).

Internal influences included the users (one interviewee). The literature indicates that user acceptance is important (Baronas & Louis, 1988, p. 111; Davenport, n.d., as cited by Wexler, 2001, p. 17; Harper & Utley, 2001, pp. 14-15) and that the knowledge and skills of the user will influence the level of ICT usage (Orlikowski & Gash, 1994, p. 174).

Two interviewees (one SE and one ME) were asked to what extent they followed the decision-making process models of Viehland and Shakir (2005) and Perera and Karunasena (2004). Significant differences were found in their decision-making processes, including:

- Many decision stages were not applicable to the SE whereas all were applicable to the ME
- Sometimes the SE interviewee did not understand a question whereas the ME interviewee understood all questions
- The SE appeared to have no strategy, taking a "just do it" approach, whereas the ME followed a strategic process
- The SE relied much less than the ME on IT consultants

- The SE took advice from family and friends whereas the ME did not

The SEs approach had no apparent structure and appeared to be driven by events whereas the ME (which has a group of directors) appeared to follow a driven by diagnosis approach to decision-making (see Langley et al., 1995, p. 263).

5   Conclusion

This research project set out to answer three questions:

- How do trade SMEs in the wider Auckland region choose their ICT requirements?

- Do they use formal planning for ICT?

- How do they make decisions about ICT?

From this research it can now be concluded that none of the selected trade SME's have a current ICT plan, and only two MEs had any form of a business plan and they were found to be out-of-date!

The interviews indicated that the SEs had an adhoc "just do it" decision-making style whereas the MEs seemed to have a more systematic approach.   None of the interviewees mentioned industry groups, and only half sought advice from IT consultants. There were many other influences on ICT decisions, including users, government, friends and family, suppliers, customers, and competitors.

As the majority of businesses in New Zealand (96.3%) are SMEs and this relevant sample indicates that they have little or more often no ICT knowledge, planning or use then it is imperative that the educational institutions to incorporate the teaching of ICT planning and ICT choice for SMEs in New Zealand.

6   Future Research

This research has raised some broader questions in relation to planning for ICT and decision-making about ICT, for example:

- How do the perceptions of end-users in the trades SMEs differ from those of the owner/managers?
- How do SMEs in other regions of NZ and in other countries differ from trade SMEs in the Auckland region?
- How do trade SMEs differ from SMEs in other sectors?
- How do LEs differ from SMEs?

In the future, the researcher hopes to investigate some of these questions.

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